



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,310	06/26/2003	Alan Lyndon Grantz	STL 3110	8018

50269 7590 04/18/2006

SEAGATE TECHNOLOGY c/o MOFO SF
425 MARKET ST.
SAN FRANCISCO, CA 94105

EXAMINER

HANSEN, COLBY M

ART UNIT PAPER NUMBER

3682

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/609,310

Applicant(s)

GRANTZ, ALAN LYNDON

Examiner

Colby Hansen

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) 6, 10, 17 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 11-16, 18, 19 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10062003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species A1 in the reply filed on 10/21/2005 is acknowledged.

Claims 6, 17, and 21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/21/2005.

Additionally, it appears claims 10 is directed to a non-elected species and is therefore withdrawn from consideration.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7-8, 11-15, 18-19, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Murthy et al. (US Pat. 6,144,523).

Murthy et al. (US Pat. 6,144,523) discloses an electric motor (the magnet and stator assemblies are inherent to the drive) for a disk drive (fig. 1) comprising a fixed shaft ; a first conical bearing integral with a first end of the shaft (fig. 3); a second conical bearing fixed to a second end of the shaft (fig. 3); and v-shaped, asymmetric (given the conical surface; fig. 5B) grooves pumping toward the outer ends of the shaft; a vented plenum 126 separating the first and

second conical bearings; a rotatable sleeve 110 disposed around the shaft and the first and second conical bearing; and a fluid between the first and second conical bearings and the sleeve, wherein each of said first and second conical bearings is sealed by a capillary seal at a wider end of the bearing (generally 122 area serves as seals); wherein the capillary seal defines a fluid reservoir and wherein the capillary seal is a centrifugal capillary seal, at least one conical bearing is formed integral with the shaft and includes an opening therein extending to an end of the shaft (see cross-section of figure 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-9, 11-16, 18-19, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan (US Pat. 5,246,294) in view of Chen (US Pat. 5,407,281).

Pan (US Pat. 5,246,294) discloses an electric motor (the magnet and stator assemblies are inherent to the drive) for a disk drive (col. 1/line 14) comprising a fixed shaft 11; a first conical 20 bearing integral with a first end of the shaft (fig. 2); a second conical bearing 21 fixed to a second end of the shaft (fig. 2); and grooves pumping toward the outer ends of the shaft; a vented plenum 46 separating the first and second conical bearings; a rotatable sleeve 15 disposed around the shaft 11 and the first 20 and second 21 conical bearing; and a fluid between the first and second conical bearings and the sleeve, wherein each of said first and second conical bearings is

Art Unit: 3682

sealed by a capillary seal at a wider end of the bearing 94,96; wherein the capillary seal defines a fluid reservoir and wherein the capillary seal is a centrifugal capillary seal, at least one conical bearing is formed integral with the shaft and includes an opening therein extending to an end of the shaft (see cross-section of figure 2) and the vented plenum 46 extends from the shaft through the sleeve to an outer surface of the sleeve (as broadly recited, the plenum of Pan extends radially out toward valve 51).

However, Pan does not disclose the conical bearing comprising asymmetric grooves for directionally pumping the fluid.

Chen (US Pat. 5,407,281) teaches a hydrodynamic fluid thrust bearing comprising asymmetric v-shaped grooves for directionally pumping hydrodynamic fluid.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the asymmetric fluid pumping grooves as taught by Chen (US Pat. 5,407,281) within the hydrodynamic bearing of Pan so as to have a simplified pumping means not requiring an external pressure source, as suggested by Chen.

Additionally, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have located the pumping grooves of Pan upon the conical bearings such that manufacturing the groove is more easily facilitated (easier to put groove on an external surface than an internal surface), since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

Art Unit: 3682

improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5, 7-9, 11-16, 18-19, and 22-24 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-27 of copending Application No. 10/454,523. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both claim hydrodynamic bearing with dual conical portions, capillary seals, and vented fluid.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such

Art Unit: 3682

submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MEP.

502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MEP. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 872-9306) on _____

(Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MEP. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colby Hansen whose telephone number is (571) 272-7105. The examiner can normally be reached on Monday through Thursday and every other Friday from 7:30 PM to 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley, can be reached on (571) 272-6917. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168.

Colby M. Hansen

Patent Examiner



4/17/06



RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER